REMARKS

This is in response to the Office Action mailed on December 23, 2008. The Office Action rejected Claims under 35 USC 112, first paragraph and rejected Claims 20-23 under 35 USC 101. Claims 1, 7-9, 11, 13, 16 and 18 were rejected as being obvious in view of the combination of US Pat. No. 6,108,609 (Qian), US Pat. No. 5,966,672 (Knupp) and US Pat. No. 5,663,929 (Pavone); Claim 4, 6, 10, 15, 19 and 20-27 as being obvious in view of the combination of Qian, Knupp, Pavone and US Pat. No. 6,243,483 (Petrou); and Claims 3, 12, 14 and 17 as being obvious in view of the combination of Qian, Knupp, Pavone and US Pat. No. 5,978,788 (Castelli).

Applicant has amended Claims 1, 8, 9 and 11. Applicant respectfully requests the Examiner to reconsider the present application in view of the following remarks. Applicant submits that all pending claims are in condition for allowance. Although Applicant believes that Claims 13-27 are patentable over the cited prior art, Applicant has canceled these claims to speed the prosecution of this patent application.

35 USC 112, first paragraph

The Office Action rejected the independent Claims 1, 3-4, 6-27 for failing to disclose how the claim element of the wavelet coefficients instead of the latitude and longitude data points are used to represent the geographic feature. Support for this claim element may be found throughout the specification as this is the Applicant's invention, namely, representing geographic features, such as roads, and boundaries of lakes and parks using wavelets rather than the typical representation using shape points as disclosed in the background of the invention on page 1, lines 29. Figure 4 illustrates how road segments (SEG_0, SEG_1, SEG_2) are represented using shape points (latitude and longitude data points along the road segment) and representing the road segments using the wavelet-based representation. Figures 6 & 7 along with corresponding text description show how the wavelet-based representation for the geographic feature is displayed.

35 USC 101

Although Applicant believes that Claims 20-23 are patentable over the cited prior art, Applicant has canceled these claims to speed the prosecution of this patent application.

Independent Claim 1

Independent Claim 1 has been amended to highlight how geographic features, such as roads, may be represented in a geographic database using a wavelet-based representation. The amendments highlight features of the invention not taught in the prior art. Namely, the claim recites converting the typical representation of a geographic feature using latitude and longitude data points into the wavelet-base representation. Claim 1 now recites "using the latitude and longitude data points to generate a parameterized function representing the geographic feature; computing a plurality of wavelet coefficients from said parameterized function representing the geographic feature." Additionally, the amendments highlight an advantage of the wavelet-based representation; namely, the wavelet representation provides an efficient representation that facilitates line generation for a zooming feature of a map display. Claim 1 recites "assigning each of the computed wavelet coefficients to at least one of a plurality of display scales for a map display; indexing the wavelet coefficients by the assigned display scales for the map display." Support for these amendments may be found at page 12, lines 1-11, page 13, lines 20-22 and page 14, lines 4-27 of the specification. Applicant respectfully points out that the combination of Qian, Knupp and Pavone do not teach or suggest these claim elements.

First, the cited references do not disclose converting the latitude and longitude data point representation of the geographic feature, such as a road, into a wavelet-based representation. The Office Action indicated that Qian disclosed using 2D spreadsheet or standard image file, such as .TIF or .BMP file as input to the wavelet transformation and Knupp disclosed cartographic data. (see Office Action, pages 5 & 11). Qian uses image data, such as that of Figure 29, and not cartographic data as input to the wavelet transform. (see Qian: col. 19, lines 10-16). Although Knupp discloses cartographic data, Knupp does not use the cartographic data as an input to the wavelet transform to compute the wavelet coefficients. The cartographic data of Knupp specifies location of the collected seismic data. (see Knupp: col. 19, lines 10-16). Knupp does not disclose using the latitude and longitude data points to generate a parameterized function and computing a plurality of wavelet coefficients from said parameterized function. In fact, Knupp does not teach the wavelet coefficients or the wavelet transform; rather, the wavelet in Knupp is a waveform or portion of a waveform. Knupp relates to visualization of seismic events using color signatures and color changes to illustrate changes in the seismic waveform

over time. For example, Figure 4 of Knupp illustrates the color representation of a seismic wavelet. (see Knupp, col. 2, line 23). Additionally, Pavone -- that was cited by the Office Action to show the mother wavelet – does not teach or suggest the above recited claim elements. None of the cited references teach converting the latitude and longitude data point representation of the geographic feature, such as a road, into the wavelet-based representation.

Moreover, none of the cited references teach the claim elements of assigning the wavelet coefficients to display scales for a map display and indexing the wavelet coefficients by the display scales for the map display. The Office Action cited Qian as disclosing these claim elements. However, Qian does not teach these elements; rather, Qian discloses analyzing signals from different scales to observe trend as shown in the examples of the S&P 500 stock index of Figure 37. (see Qian: col. 21, lines 20-37). This section of Qian does not teach assigning the wavelet coefficients to display scales for a map display. Additionally, Qian discloses computing the wavelet coefficients by going through several levels of computation (see Qian: col. 3, lines 19-37 and col. 19, lines 62-64). These sections of Qian disclose the process for computing the wavelet coefficients and do not teach the claim element of assigning the wavelet coefficient to display scales for a map display. Moreover, Knupp and Pavone do not teach these claim elements.

For at least these reasons, Claim 1 is not obvious in view of the cited combination.

Independent Claims 8

Independent Claim 8 recites "identifying a display scale for displaying the representation of the geographic feature, wherein the display scale is one of several display scale levels useable for a zooming operation of a map display; retrieving from a computer-usable database a plurality of wavelet coefficients associated with the geographic feature at the display scale ... the wavelet coefficients being derived from a plurality of latitude and longitude data points specifying geographic locations on the geographic feature; generating a parameterized function representing the geographic feature at the display scale using the retrieved wavelet coefficients; and displaying a line on the computer output device corresponding to the parameterized function." Support for these amendments may be found at page 2, lines 1-9, page 13, lines 16-28, page 14,

lines 1-5 of the specification. Claim 8 is not obvious in view of the cited references for many of the same reasons discussed above in conjunction with Claim 1.

First, the combination of references does not teach that the wavelet coefficients are derived from latitude and longitude data points for the same reasons discussed above. Qian uses image data, such as that of Figure 29, as input to the wavelet transform not latitude and longitude data. (see Qian: col. 19, lines 10-16). Although Knupp discloses latitude and longitude data, Knupp does not use the latitude and longitude data as an input to the wavelet transform to compute the wavelet coefficients. The latitude and longitude data of Knupp specifies location of the collected seismic data. (see Knupp: col. 19, lines 10-16). Knupp does not disclose using the latitude and longitude data points to derive the wavelet coefficients. In fact, Knupp does not teach the wavelet coefficients or the wavelet transform; rather, the wavelet in Knupp is a waveform. Knupp relates to visualization of seismic events using color signatures and color changes to illustrate changes in the waveform over time. (see Knupp, Fig. 4, col. 2, line 23). Additionally, Pavone does not teach or suggest the above recited claim elements.

Moreover, none of the cited references teach the claim elements of generating a parameterized function representing the geographic feature at the display scale using the retrieved wavelet coefficients; and displaying a line corresponding to the parameterized function on the computer output device. The Office Action cited Qian as disclosing these claim elements. However, Qian does not teach these elements; rather, Qian discloses multi-scale analysis of signals from scales to observe trend. (see Qian: col. 21, lines 20-37). This section of Qian does not teach using the wavelet coefficients to generate a parametric function and displaying a line corresponding to the parametric function. None of the cited references disclose displaying geographic features, such as a road, for a map display using the wavelet-based representation.

For at least these reasons, Claim 8 is not obvious in view of the cited combination.

Independent Claim 11

Independent Claim 11 recites the wavelet-based representation of a road with the wavelet coefficients being derived from a plurality of latitude and longitude data points specifying geographic locations on the road. Additionally, Claim 11 recites using the wavelet-based

representation of the road to generate a map display. For similar reasons discussed above in conjunction with Claim 8, Claim 11 is not obvious in view of the cited references.

Dependent Claims 3-4, 6-7, 9-10 and 12

Applicant's dependent Claims 3-4, 6-7, 9-10 and 12 are allowable at least for the reason that they depend upon allowable base claims. In addition, these claims include features that are not disclosed by the cited references.

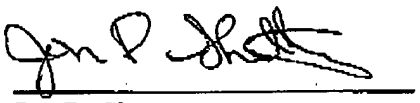
Petition for extension of time

Included with this response is a request for an extension of time to reply to the final Office Action dated December 23, 2008. Included with this response is an authorization for payment of the fee associated with this request.

Conclusion

With the present response, all the issues in the Office Action mailed December 23, 2008 have been addressed. Applicant submits that the present application has been placed in condition for allowance. If any issues remain, the Examiner is requested to call the undersigned at the telephone number indicated below.

Respectfully submitted,



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